

WHAT IS CLAIMED IS:

*Sub A*

1. A method for reducing the tendency of paper to curl in the drying section of a paper machine, comprising drying the paper web by pressing the web against the heated faces of a plurality of drying cylinders in the drying section of a paper machine having a twin-wire draw and/or a single wire draw, and applying a sufficient amount of steam onto the entire width of the paper web in the drying section such that tensions that have been formed or that tend to be formed in the fiber mesh are relaxed by means of heat and moisture from the steam in the area of their formation or thereafter.

10

2. The method of claim 1, further comprising applying said steam treatment to an open face of the paper web as it runs on a suction sector of a suction roll or cylinder in said drying section, and promoting the penetration of said steam treatment into the paper web in a direction of the thickness of the paper web by means of the suction present on said suction sector.

20

*2*

*6*

3. The method of claim 1, further comprising applying said steam treatment ~~is employed~~ at an end of the drying section.

25

*4*

4. The method of claim 2, further comprising applying said steam treatment in an area of said drying section where the dry solids content of the paper web is from about 70 to about 98 percent.

*5*

*a*

5. The method of claim 4, further comprising applying said steam treatment in an area of said drying section where the dry

solids content of the paper web is from about 80 to about 95 percent.

a

4. The method of claim 1, further comprising providing  
5 said drying section with groups of drying cylinders with  
single-wire draw, arranging said drying cylinders in an upper  
row, and arranging said suction roll or cylinder in a lower row,  
such that paper broke can be removed directly through open  
intermediate spaces located underneath said drying cylinders.

10

*Sub A7*  
7. The method of claim 2, further comprising applying the  
steam treatment to the free draws of the paper web located  
between said upper row and said lower row in an area with twin-  
wire draw, and applying steam onto one side or onto both sides of  
15 the paper web.

8. A drying section of a paper machine, comprising  
at least one drying section group comprising a plurality of  
dryling cylinders for drying a paper web, said dryling cylinders  
20 each having a heated surface,  
a dryling wire running in a meandering fashion over said  
dryling cylinders, said dryling wire pressing the paper web against  
said heated surfaces of said dryling cylinders,  
at least one steam box comprising a counter-face which,  
25 together with a free face of the paper web, defining a contact-  
free steam-treatment gap in said dryling group, said steam box  
extending substantially across an entire transverse width of the  
paper web, said steam box adapted to apply steam substantially  
across an entire width of the paper web such that steam tensions  
30 that have been formed or that tend to be formed in the fiber mesh

of the paper web are relaxed by means of heat and moisture in the area of their formation or substantially immediately thereafter.

7 6  
5 9. The drying section of claim 8, wherein said steam box  
further comprises regulating means, said regulating means  
controlling the quantity of steam supplied by the steam box  
across the transverse width of the paper web.

b 10 9 6  
10 10. The drying section of claim 9, wherein said drying  
group further comprises a plurality of wire guide rolls and/or  
leading cylinders over which the paper web runs, at least one of  
said wire guide rolls or leading cylinders being a suction-  
leading cylinder provided with negative pressure, said steam box  
being placed in an area of said drying section having a  
15 single-wire draw on a suction zone of said suction-leading  
cylinder, such that the negative pressure prevailing in interior  
spaces of said suction-leading cylinder supports the paper web  
and promotes the action of the steam on the paper.

10 9  
20 11. The drying section of claim 10 which comprises at least  
two drying section groups, at least one guide roll located in a  
gap between said drying group sections for guiding the paper web,  
said steam box being fitted opposite said guide roll.

25 12. The drying section of claim 10, wherein said drying  
section group has a single-wire draw, said drying cylinders being  
arranged as an upper row, and said wire guide rolls and/or said  
leading cylinders are arranged in a lower row below said drying  
cylinders.

30

12<sup>13</sup>. The drying section of claim 12, wherein said drying section groups comprise a plurality of additional steam boxes fitted in connection with additional ones of said leading cylinders and/or said wire guide rolls.

5  
*Sub B4* 14. The drying section of claim 10, wherein said drying group section has a twin-wire draw, said steam box being fitted to apply the steam treatment to one side of the paper web as the web runs as a free draw from one of said drying cylinders to 10 another of said drying cylinders.

15 15. The drying section of claim 14, wherein said drying group section comprises at least one additional steam box fitted at said free draw on an opposite side of the web.

16 17<sup>18</sup> 16. The drying section of claim 14, wherein said steam box is arranged in an area of said drying section where the dry solids content of the paper web is from about 70 to about 98, by weight.

20 8 17. The drying section of claim 9, wherein said steam box is arranged in an area of said drying section where the dry solids content of the paper web is from about 80 to about 95 percent, by weight.

25  
7Add A<sup>3</sup>  
7Add B<sup>7</sup>  
7Add C<sup>5</sup>